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METROPOLITAN LIFE INSURANCE COMPANY

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Women's Dress a Fire Hazard

A LARGE number of women each year in the United States die victims to feminine fashion of dress. For women's clothing is unfortunately a definite fire hazard which men, with their closer fitting and heavier garments, escape.

Burns sustained in ordinary home activities cause the death of about 1,600 women (over age 15) in the United States each year. This includes some 350 deaths from the use of flammable liquids for kindling fires, for dry cleaning, and other purposes; it also includes some 150 deaths through clothes of women catching fire as they warm themselves near open fires or hot stoves. It excludes, however, 350 women who are not counted in this category, but who lose their lives in conflagrations of buildings.

It is a mournful object lesson to survey a statistical summary of the various circumstances through which women lose their lives from accidental burns. Such a summary, presented in the table on page 3 is based on the mortality records of 388 women, aged 15 and over, insured in the Industrial Department of the Metropolitan Life Insurance Company, who died from such causes during the years 1936 to 1938, inclusive. Sufficient details for analysis regarding the agency and circumstances involved were given in 350 of these cases. Presumably the sample is fairly representative of corresponding conditions throughout the United States, more particularly urban districts.

The agencies involved in fatal accidents of this kind are, in order of importance, stoves and grates (excluding kindling fires with flammable liquids), flammable liquids, matches and cigarets, hot liquids, bonfires, oil lamps, electrical appliances, and candles.

Almost one half (171) of the deaths were attributable to stoves and grates. Typical examples in this class were the following: A woman used her apron as a potholder to remove a pot from the top of a stove, and in doing this she set the apron ablaze; a woman, housecleaning on a holiday eve, backed into an open grate and ignited her clothes.

A surprising feature about these accidents is that so many occur, not while the woman is actually at work over or tending the stove, but while she is engaged in other activities. In fact, of the total 171 deaths

attributed to accidents through stoves and grates, no less than 90 occurred during such incidental activities.

In not a few cases the injured person was suffering from some physical ailment that brought about the accident. Some of these women fell on hot stoves when overtaken by dizziness or a fainting spell, heart attack, or apoplectic stroke. Others fell on the stove merely through old-age infirmity.

Perhaps the least excusable fire hazard in the home is the use of flammable liquids. Explosions or spreading flames arising from the use of such liquids accounted for no less than 73, or 20 percent, of the total number of fatal home burns here analyzed. Possibly the most reprehensible misuse of flammable substances is their employment in lighting or hurrying along a coal or wood fire. The death list from this cause includes 31 deaths from kerosene, 8 from gasoline, 2 from benzine, 1 from turpentine, and 3 from unspecified liquids. Dry cleaning with gasoline and similar agents in the home is bad practice under even favorable conditions, but when carried on in poorly ventilated rooms in which there are open flames or pilot lights, the chances of an explosion or fire are very great. In our list, 14 deaths were chargeable to flammable dry-cleaning compounds. Occasionally, flammable substances are used for purposes other than cleaning clothes; namely, polishing stoves, waxing floors, etc. Sometimes the mere storage of such compounds near heaters or flames has caused explosions and deaths.

It would seem that by this time people would have learned how to use matches safely and to smoke without endangering their lives and the lives of others. Yet our list shows that careless use of matches and cigarets brought death to no less than 32 of these women, and of these, 12 had been indulging in the extremely risky habit of smoking in bed. Others set their clothes on fire while simply lighting a cigaret or while trying to throw a little light into closets or dark places to find some article stored there. In one instance the breaking off of the lighted end of a match caused the woman's apron to catch fire.

Aside from burns with flames, burns or scalds with hot liquids claim a number of victims each year, although this type of accident usually happens to children rather than to adults. Of the instances recorded, in seven cases invalid or feeble persons were the victims, when bathing or taking a shower unattended. A number of the women met death by tripping while carrying hot liquids or by knocking over vessels standing on hot stoves.

Another household chore which claims its victims through fatal burns is that of destroying rubbish, waste paper, dead leaves, and grass in bonfires. A sudden gust of wind blowing the flames about has in such cases set ablaze the clothes of the woman tending the fire.

One fire risk which to many of us would seem to be out of date, is

oil lamps. The upsetting of these has caused many fatal burns. A more modern risk is that of electrical appliances; even the use of electric heating pads in bed has claimed its victims. There is, in fact, hardly any source of fire that has not played its role in bringing about these accidents. The primitive candle has added to the toll, as well as the blow torch used in thawing frozen pipes.

Agency and Circumstance Attending Deaths from Burns Among Females, Ages 15 and Over, In and About the Home. Weekly Premium-Paying Business, Industrial Department, 1936—1938. Metropolitan Life Insurance Company

Agency and Circumstance	Number of Deaths	Percent of Total
Total	350	100.0
Stoves, furnaces, grates, etc.*	171	48.9
Working at stoves	44	12.6
Warming self	34	9.7
Lighting or tending fires	37	10.6
Other activities	56	16.0
Flammable liquids	73	20.9
Kindling fire	45	12.9
Dry cleaning	14	4.0
Storing or carrying liquid near flames	8	2.3
Polishing stove	2	.6
Other uses	4	1.1
Matches and cigarets	32	9.1
Smoking in bed and falling asleep	12	3.4
Lighting up closet or other dark room	4	1.1
Careless lighting of cigaret	4	1.1
All other circumstances	12	3.4
Hot liquids	25	7.1
Taking shower or bath	7	2.0
Tripping while carrying vessel	7	2.0
Upsetting vessel on stove	7	2.0
Upsetting vessel—no other information	4	1.1
Bonfires in yard	16	4.6
Oil lamps	15	4.3
Upset or dropped	9	2.6
All other circumstances	6	1.7
Electrical appliances (excluding burns by electricity)	8	2.3
Heating pads	4	1.1
All other	4	1.1
Candles	2	.6
Other agencies and circumstances	8	2.3

*Does not include burns from kindling fires with flammable liquids.

A survey of cases such as here listed leaves one impressed with the seriousness of hazards, especially to women, from these common household sources. But actually the case is not quite so bad. The trend of the death rate from burns among women has been downward for some time. Several reasons for this decrease can be seen. The modernization of the American home has much to do with it. Oil lamps have become a rarity in many places, and gas for illuminating purposes equally so, having given place to the comparatively innocuous electric light bulb. The coal stove, too, is distinctly more of a hazard than its modern counterpart, the gas or electric range. Nor would this survey be complete without mention of the modern methods of treating burns, which not only have lessened the pain, but have saved lives. Lastly, all credit should be given to the efforts of organizations, such as the National Fire Protection Association and the National Safety Council in educating the public about these risks.

Mortality in the First Nine Months of 1939

THE death rate for the nine elapsed months of 1939 is the lowest but one on record for this portion of the year, according to the experience of the Metropolitan Life Insurance Company among its millions of Industrial policyholders. The cumulative rate for 1939 so far amounts to but 7.8 deaths per 1,000 persons; last year, in the like period, when the best record was made, the rate was 7.7. The exceptional mortality experience for 1939 is all the more noteworthy considering the handicap with which the year started. In the first five months of the year, from January to May, the death rates were in excess of those for last year. In fact, by the end of March, the month of highest mortality this year, the cumulative rate was 3.1 percent above last year's; by the end of May the excess was 3.5 percent. But during the summer of 1939 the mortality rates have been exceptionally low. New minimal levels were reached in each of the months from June to September inclusive, so that the excess over last year at the close of nine months amounts to only 0.7 percent. If the current favorable condition continues for the remaining three months of 1939, it is entirely possible that at the end of this year the mortality for the entire 12 months will be even lower than in 1938, the record year hitherto for this large group of people.

The general population of the country likewise has been enjoying excellent health conditions. This is indicated by the Weekly Health Index of the Bureau of the Census, which reports that for 88 major cities the number of deaths this year, so far, exceeds the number in 1938 by only about 2 percent.

Examination of the list of causes of death shows that the rates in

1939, so far, are lower than last year for the majority of diseases. Only the diseases common to older persons show higher rates than a year ago, namely, cancer, diabetes, cerebral hemorrhage, diseases of the heart and of the coronary arteries.

Communicable Diseases of Childhood

Whooping cough, diphtheria, scarlet fever, and measles, ranking in the order named, together account for 4.5 deaths per 100,000 white policyholders, which is the lowest rate in the records of the Company for this period of any year. More noteworthy is the fact that each one has made an individual new record, except whooping cough, and even for this the rate for the nine months is only just above the minimum. The extraordinary achievements in this field of public health during the two past decades may best be judged by comparing this year's figure of 4.5 with the corresponding figure of 40.0, registered in the like months of 1921.

Tuberculosis

The death rate from tuberculosis this year, so far, is lower by 3.4 percent than that registered a year ago. This is a substantial decline and a noteworthy achievement. Moreover, it extends the series of years, which began in 1926, that have shown an uninterrupted decline in the death rate from tuberculosis. The rate for the nine months combined is 46.0 deaths per 100,000 policyholders, or about half the rate which obtained only 10 years ago. This year again it seems certain that a new low death rate will be recorded for this disease. Despite this favorable showing in the aggregate, it nevertheless is true that tuberculosis still ranks first as a cause of death among policyholders in the age group 15 to 44 years.

Pneumonia (All Forms)

"The lowest death rate on record," a term that is acquiring a welcome familiarity, applies also to pneumonia. For the year to date the mortality figure is close to 12 percent under last year's, which was the previous minimum. The continued decline in the number of deaths from this cause is of especial interest at this time, since it follows so closely upon the application of the newer methods of pneumonia therapy. The increasing use of specific serum and of sulfapyridine, either separately or combined, is clearly playing an important part in saving lives of pneumonia patients.

Other Causes Showing Declines

Other causes of death to show declines this year are typhoid fever, diarrhea and enteritis, appendicitis, chronic nephritis, and the puerperal state. In the case of each of these, the cumulative death rates are the lowest ever recorded for the like period. It is interesting to note that the diseases of the puerperal state now cause only 5.6 deaths per 100,000 policyholders. Even in the early 1930's the rate was more than double this figure, and 10 years earlier it was more than four times

this amount. It is true that the number of women exposed to the hazards of pregnancy was larger in the earlier years, when the birth rate was much higher than now. For example, in 1920 the birth rate in the United States was about 24 per 1,000 population; in 1930 it

Death Rates per 100,000 Persons Exposed. First Nine Months of 1938 and 1939 Compared. By Color for Principal Causes of Death. All Ages.*
Metropolitan Life Insurance Company.
Industrial Weekly Premium-Paying Business

Causes of Death	Death Rates per 100,000 Persons Exposed*					
	Total		White		Colored	
	Jan.-Sept. 1939	Jan.-Sept. 1938	Jan.-Sept. 1939	Jan.-Sept. 1938	Jan.-Sept. 1939	Jan.-Sept. 1938
Total—All Causes	778.9	773.8	713.9	707.6	1,273.3	1,290.2
Typhoid fever	.7	1.0	.6	.8	1.7	2.5
Communicable diseases of childhood	4.4	6.9	4.5	7.2	3.7	4.3
Measles	.7	2.0	.8	2.2	.3	1.0
Scarlet fever	.8	1.2	.8	1.4	.7	.3
Whooping cough	1.8	2.2	1.7	2.2	2.1	2.1
Diphtheria	1.1	1.4	1.2	1.5	.7	.9
Influenza and pneumonia	57.8	60.5	51.5	54.6	105.4	106.6
Influenza	11.1	7.4	9.4	6.3	23.5	16.5
Pneumonia (all forms)	46.7	53.1	42.1	48.4	81.9	90.1
Bronchopneumonia	19.6	22.6	18.5	21.7	27.3	30.1
Lobar and undefined	27.1	30.5	23.5	26.7	54.6	60.1
Tuberculosis (all forms)	46.0	47.6	33.9	35.9	137.7	139.0
Tuberculosis of respiratory system	41.3	42.5	30.5	32.1	123.1	123.2
Syphilis, locomotor ataxia, and general paralysis of the insane	11.2	11.0	6.4	6.6	47.4	46.0
Cancer (all forms)	100.5	95.5	99.6	94.0	107.6	107.0
Diabetes mellitus	28.0	24.4	27.8	24.0	29.6	27.6
Alcoholism	1.2	1.4	1.1	1.3	1.7	2.3
Cerebral hemorrhage; apoplexy	60.2	57.6	52.7	49.6	117.4	120.2
Diseases of the heart†	162.4	151.9	149.5	138.2	260.3	257.9
Diseases of the coronary arteries	39.6	33.2	40.6	33.9	32.2	27.4
Angina pectoris	6.4	6.8	6.5	6.8	5.0	6.3
Diarrhea and enteritis	5.5	7.3	5.3	7.0	7.1	9.5
Appendicitis	10.5	10.6	10.0	10.4	13.8	11.9
Chronic nephritis (Bright's disease)	52.1	53.1	44.5	45.5	109.7	112.8
Puerperal state—total	5.6	6.2	4.8	5.6	11.2	11.1
Total external causes	59.3	61.8	56.2	58.6	82.4	86.4
Suicides	8.6	9.2	9.0	9.6	5.6	6.1
Homicides	4.3	4.3	1.9	2.0	23.0	22.5
Accidents—total	46.3	48.3	45.3	47.0	53.8	57.9
Automobile accidents	16.1	16.9	15.9	16.6	17.3	19.5
All other diseases and conditions	127.7	137.1	118.3	127.6	199.4	211.5

*The rates for 1939 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes pericarditis, acute endocarditis, acute myocarditis, coronary artery diseases, and angina pectoris.

was 19; and in 1937, the latest year for which figures are available, it was 17 per 1,000. But, as these figures show, the decline in the birth rate has not been anywhere near as great as the decline in the number of puerperal deaths, so that it is evident real progress is being made in the control of this condition among the insured women. The current puerperal mortality is equivalent to about 3.5 maternal deaths for each 1,000 live births.

External Causes

Suicides have been decreasing this year; the rate, compared with a year ago, is down by 6.5 percent. The rate for homicides remains at the minimum, 4.3 per 100,000, and is just half the figure for suicides. With respect to accidents, the improvements this year so far are most encouraging. Automobile accidents, which are responsible for about one third of the total fatal accidents, have declined 4.7 percent from last year; other types of fatal accidents have declined 3.8 percent.

From every angle, health conditions are reflecting the ever-improving facilities of modern medicine and public health effort.

Where the Rates Have Increased

As noted in an earlier paragraph, the higher mortality this year is largely confined to the diseases and conditions of importance in middle and late life. The increase in the rate for cancer is a continuation of the trend observed in 1937 and 1938. The present rate is 100.5 per 100,000 and is the highest reported for this period of any year. It is higher than the rate of last year and two years ago by 5 percent and 10 percent, respectively.

Diabetes also shows an increase in the death rate, whereas last year a decline from the year before was registered during the corresponding period.

The death rate from diseases of the heart has increased nearly 7 percent over last year, so that the current figure is again up to the level of 1936, the next to the highest on record for the first nine months of the year. Diseases of the coronary arteries also report a new high rate this year. The marked increase in deaths reported from this disease in recent years places it among the chief causes of death today.

Working Capacity of Diabetics

With the rapid improvement in our knowledge of diabetes and its effective treatment, there has been a profound shift of emphasis not only in the methods but in the aims of the treatment. The prime objective today is to keep the diabetic patient a useful and productive citizen. How far this objective has been attained is shown by several recent studies.

One of these studies relates to

653 patients of the George F. Baker Clinic between the ages of 20 and 65, who returned for treatment or check-up late in 1938 or early in 1939. Through the courtesy of Dr. Elliott P. Joslin, medical director of the Clinic, these facts have been made available. It was found, on questioning the patients described, that 63 percent of the men in the group were able to do full-time work without important interruptions; another 27 percent were able to work approximately two thirds of the time, and another 5 percent approximately one third of the time. Only 5 percent were disabled. For women these observations are less reliable, since most of them are middle-aged housewives attending to their households in activities not precisely defined within set time limits. However this may be, 46 percent of the women in this broad age group reported little or no time lost from their usual activities; 34 percent lost approximately one third of the time, and 14 percent lost approximately two thirds of the time. Only 6 percent were definitely disabled.

Similar data are available for another group from the same Clinic, composed of 605 diabetics whose disease began when they were under 40 and who had had their disease for at least 15 years. Of the patients in that group who were still under 40 years old, 90 percent were able to work or lead a normal life. Among those who had passed the age of 40, 76 percent were normally active. Moreover, 95 percent of the patients reported themselves in good or fair health. Insulin played an important part in these results, for 92 percent of the younger group and 71 percent of the older group were taking insulin.

How little their diabetes interferes with the working capacity of properly treated patients is shown by a study in an English clinic. The study* related to 100 consecutive patients in varied occupations who had an average period of employment of five years since discovery of their diabetes. Of this group, only 15 percent had had any serious loss of time on account of illness traceable in any way to their diabetes. Thirty-nine percent had lost no time whatever because of diabetes; 38 percent had lost a brief period for a study of their insulin and dietary requirements at the beginning of treatment, and 8 percent for subsequent study of the same kind. Furthermore, 45 percent of the group had lost no time for illnesses not related to diabetes. Of the 100 persons, 75 were men, 73 were between ages 14 and 40, and 83 used insulin regularly.

Another measure of the normality of life of diabetics is set forth in a study† of 60 patients of the Mayo Clinic. These persons of either school or working age were taking insulin and had been on a diabetic regimen for at least one year.

*LAWRENCE, R. D., and MADDERS, K. "The Employment of Diabetics." *British Medical Journal*, 1938, Vol. 2, page 1076.

†PETERSON, G. "The Social Aspects of Diabetes: A Study of 60 Cases." *New England Journal of Medicine*, 1934, Vol. 211, page 397.

Nearly three quarters of the patients continued at their previous employment and another 10, or 17 percent, merely made some adjustment in their working habits. Furthermore, 80 percent were able to keep up their usual social or recreational activities.

The success of bringing diabetic women through pregnancy by skilled prenatal and obstetrical care is another striking proof of the progress in management of the disease. Today the maternal mortality among these women is low, and the chief problem is to save their babies. Formerly few diabetic women became pregnant, and the chances of a living issue were small.

Admittedly, these records of well-being and working capacity are not as good as in persons in normal health. A definite norm for purposes of comparison is not available, but there can be little doubt that the full success attainable has not yet been reached. The figures cited give eloquent testimony of the excellent results already obtained.

There is good reason to expect continued improvement in the prognosis of diabetic patients, for progress is constantly being made along many lines bearing directly or indirectly on their welfare. Intensive research is actively being carried on regarding the underlying endocrine relationships involved in diabetes, and the experimental work in the artificial production of diabetes by pituitary injections may be found to give a clue to a new type of therapy. At the same time, efforts are continuing to improve the forms of insulin now available. The ideal in view is to produce one whose action may approximate, even more closely than the best form now available, the action of the insulin normally produced in adequate quantity in the pancreas of normal individuals. Efforts are being made in many parts of the country to improve the general level of treatment of diabetics with the facilities now available. By intensive postgraduate medical education, older physicians whose formal education in diabetes goes back to preinsulin days, are being made acquainted with up-to-date methods of treatment. Meanwhile, the younger physicians, whose training includes these newer methods, are forming an increasing proportion of the total number in practice.

The modern aim in the treatment of diabetics, namely to restore them and keep them as useful and productive citizens in the community, is thus on the way to being more and more nearly realized. Both doctors and diabetics themselves can help in attaining the goal. Every diabetic maintained at work is not only himself the gainer, but thereby establishes a reputation which helps to overcome the prejudice of employers against giving jobs to diabetics.

There may seem to be a contradiction between the favorable results of modern treatment and the continuance of high mortality from diabetes. The current high level of the death rate merely reflects the increase in the known incidence

of the disease. Evidences of improved efficiency in its treatment are abundant. In addition to the excellent showing as regards working capacity, there is to be reckoned the increased longevity of patients with the disease, the continued decline in death rates from diabetes at every age under 45, the decreased proportion of deaths from diabetic coma, and the increased proportion of diabetics dying from conditions, such as cardiovascular diseases, common to the age period in which most diabetics are included. While some diabetics still die prematurely from preventable complications, the situation is showing steady and measurable improvement. The ultimate decline in the death rate depends on controlling the causes which result in developing diabetes on a huge scale.

Health Record for September 1939

SEPTEMBER 1939 recorded a new low death rate, for this particular month, among the Industrial policyholders of the Metropolitan Life Insurance Company. The rate was 6.7 deaths per 1,000 persons, which is less by 1.2 percent than the previous minimum figure, recorded only a year ago.

Concerning the recent prevalence of communicable diseases in the general population of the country, reports for September show that there were fewer cases of sickness from practically every one of the reportable diseases except poliomyelitis than in the corresponding weeks a year ago.

The following table shows the mortality among Industrial policyholders for September 1939, August 1939, and September 1938, together with the death rates for the first nine months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rate per 100,000 for Principal Causes. Weekly Premium-Paying Business in Industrial Department. All Ages (Annual Basis).*

MONTHS OF SEPTEMBER 1939, AUGUST 1939, AND SEPTEMBER 1938

CAUSES OF DEATH	ANNUAL RATE PER 100,000 LIVES EXPOSED*				
	September 1939	August 1939	September 1938	Cumulative January-September	
				1939	1938
TOTAL—ALL CAUSES	668.7	697.1	676.8	778.9	773.8
Typhoid fever	1.4	.9	1.6	.7	1.0
Measles	.1	.1	....	.7	2.0
Scarlet fever	.1	.3	.1	.8	1.2
Whooping cough	2.0	1.5	3.0	1.8	2.2
Diphtheria	1.2	.9	1.0	1.1	1.4
Influenza	1.5	1.7	2.1	11.1	7.4
Pneumonia (all forms)	18.4	17.5	27.3	46.7	53.1
Tuberculosis (all forms)	42.2	40.2	42.9	46.0	47.6
Tuberculosis of respiratory system	38.1	35.7	37.8	41.3	42.5
Syphilis, locomotor ataxia, and general paralysis of the insane	9.1	9.0	8.8	11.2	11.0
Cancer (all forms)	94.7	97.7	88.6	100.5	95.5
Diabetes mellitus	24.3	24.4	20.8	28.0	24.4
Cerebral hemorrhage; apoplexy	52.0	54.4	48.7	60.2	57.6
Diseases of the heart†	128.8	133.5	128.0	162.4	151.9
Diseases of the coronary arteries	37.2	34.7	29.0	39.6	33.2
Angina pectoris	4.9	4.6	5.8	6.4	6.8
Diarrhea and enteritis	8.2	7.6	11.4	5.5	7.3
Appendicitis	11.3	12.1	10.9	10.5	10.6
Chronic nephritis (Bright's disease)	43.8	44.0	42.8	52.1	53.1
Puerperal state—total	4.4	6.0	5.9	5.6	6.2
Suicides	7.9	9.0	8.4	8.6	9.2
Homicides	3.9	4.3	4.0	4.3	4.3
Accidents—total	52.0	50.3	50.7	46.3	48.3
Automobile accidents	19.1	17.4	18.4	16.1	16.9
All other diseases and conditions	119.5	142.4	135.0	128.9	138.5

*The rates for 1939 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes pericarditis, acute endocarditis, acute myocarditis, coronary artery diseases, and angina pectoris.

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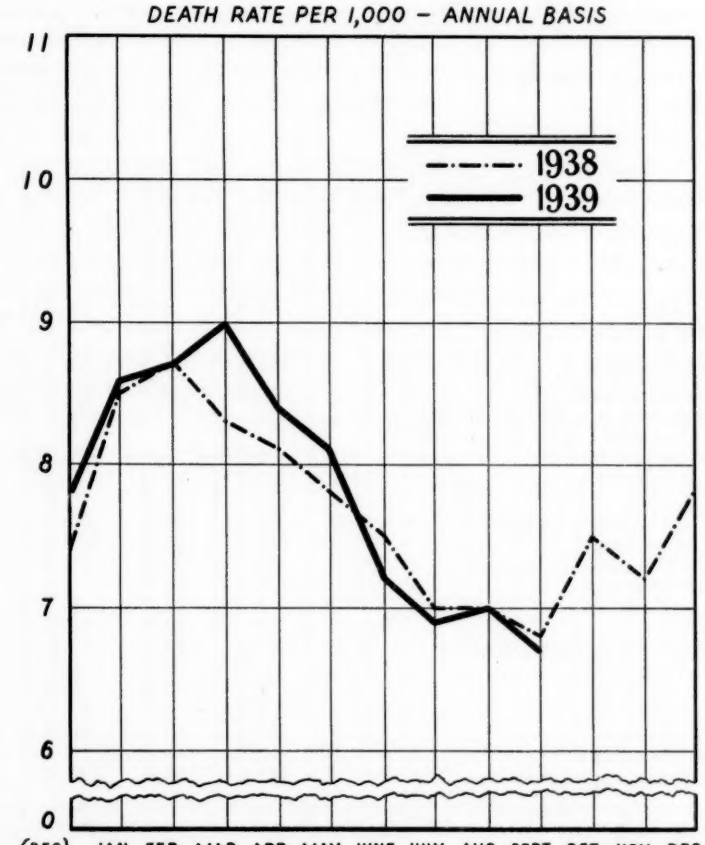
DEATH RATES FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT
WEEKLY PREMIUM-PAYING BUSINESS – TOTAL PERSONS



1938	8.5	8.7	8.3	8.1	7.8	7.5	7.0	7.0	6.8	7.5	7.2	7.8
1939*	8.6	8.7	9.0	8.4	8.1	7.2	6.9	7.0	6.7			

*Rates are provisional

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